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INTRODUCTION

TODO Recent papers first. Mention Workshops instead in conference. "Proceedings of XXXX". Add the pages in the papers list.

1.1 Background

TODO Motivate with the open challenges.

The company Polyverse¹ applies randomization on a commercial scale. They provide each client with a unique Linux distribution compilation by scrambling the Linux packages at the source code level.

1.2 Problem statement

TODO Problem statement **TODO** Set the requirements as R1, R2, then map each contribution to them.

1.3 Automatic Software diversification requirements

1. 1: **TODO** Requirement 1

1.4 List of contributions

C1: Methodology contribution: We propose a methodology for generating software diversification for WebAssembly and the assessment of the generated diversity.

C2: Theoretical contribution: We propose theoretical foundation in order to improve Software Diversification for WebAssembly.

⁰Comp. time 2023/10/17 16:29:53

¹<https://polyverse.com/>

Contribution	Resarch papers				
	P1	P2	P3	P4	P5
C1	x	x		x	x
C2	x	x			
C3	x	x	x		
C4	x	x	x		
C5			x		
C6	x	x	x	x	x

Table 1.1

C3: Automatic diversity generation for WebAssembly: We generate WebAssembly program variants.

C4: Software Diversity for Defensive Purposes: We assess how generated WebAssembly program variants could be used for defensive purposes.

C5: Software Diversity for Offensives Purposes: We assess how generated WebAssembly program variants could be used for offensive purposes, yet improving security systems.

C6: Software Artifacts: We provide software artifacts for the research community to reproduce our results.

TODO Make multi column table

1.5 Summary of research papers

P1: Superoptimization of WebAssembly Bytecode.

P2: CROW: Code randomization for WebAssembly bytecode.

P3: Multivariant execution at the Edge.

P4: Wasm-mutate: Fast and efficient software diversification for WebAssembly.

P5: WebAssembly Diversification for Malware evasion.

1.6 Thesis outline